Certificate#4810.01

M-79-08 Test Report

For

Beyond LED Technology

(Brand Name: Beyond LED Technology)

Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type B)

Model name(s): BLT-CLW08E-063WBCA1-EXS50K

Remark: a= the lamp base type, can be E for E39 lamp base, EX for EX39 lamp base
d= dimming type: "L" for Continuous dimming and "S " for Segmented dimmer
c for CCT, can be any two digital.

Representative (Tested) Model:
BLT-CLW08E-063WBCA1-EXS50K

Model Different: All construction and rating are the same, except CCT

Test & Report By:

Grace Li

Engineer: Grace Li

Date: Sept 9, 2020

Review By:

Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-CLW08E-063WBCA1-EXS50K	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type B)	
Rated Voltage / Frequency	100-277 VAC, 50/60 Hz	
Nominal Power	36W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K,6500K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2008032E-F1(3000K), F2(6500K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo

1.2 Test Specifications:

Date of Receipt	Aug 25, 2020
Date of Test	Aug 26, 2020
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method: Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25 °C ±1 °C, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1 °vertical intervals and 22.5 °horizontal intervals.
2) Chromaticity Measurement – Sphere-Spectroradiometer Method: Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25 ºC ±1 ºC. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.
3) Electrical Measurements: Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at 25 ºC ±1 ºC. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2020-08-26	Test Ambient:	25.2 ℃
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-CLW08E-063WBCA1-EXS50K		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200803 2E-F1	120.0	60	0.2887	34.09	0.984	11.87
	277.0	60	0.1333	33.39	0.904	12.18
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):

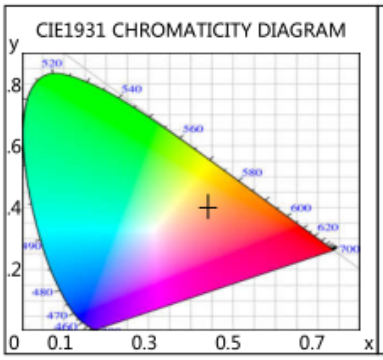
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	2949
Duv	-0.0010
Chromaticity (x, y)	x=0.4391 y=0.4022
Chromaticity (u', v')	u(u')=0.2528 v'=0.5210
Color Rendering Index (CRI)	82
R9	3
Rf	84
Rg	95
Rcs,h1(%)	-12

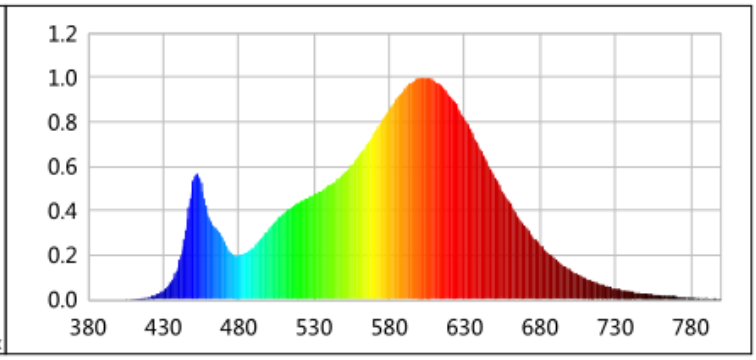
Special Color Rendering Indices			
R1	81	R9	3
R2	92	R10	83
R3	94	R11	80
R4	80	R12	73
R5	82	R13	84
R6	92	R14	98
R7	80	R15	73
R8	56	--	--
--	--	--	--
--	--	--	--
--	--	--	--

Photometric Measurement – Goniophotometer Method in King Luminaire K400 Series (Mogul Socket Version):

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	4249.1	4112.2	250-5000lm (-10%)
Luminous Efficacy (lm/W)	124.64	123.16	Standard: >= 105(-3%)
Most worst Luminous/Highest Watts	120.63		
Zonal lumens in the 0-90 °zone (%)	75.20	--	>=65(-3)
Beam Angle (°)	201.9	--	--
Center Beam Candle Power (cd)	116	--	--

Spectral Power Distribution & Chromaticity Diagram





WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0122	525	0.4554	40.4458	670	0.3292	29.2345
385	0.0004	0.0369	530	0.4725	41.9623	675	0.2850	25.3120
390	0.0004	0.0380	535	0.4903	43.5431	680	0.2470	21.9374
395	0.0002	0.0197	540	0.5133	45.5871	685	0.2120	18.8267
400	0.0005	0.0488	545	0.5388	47.8459	690	0.1830	16.2525
405	0.0017	0.1480	550	0.5691	50.5386	695	0.1556	13.8182
410	0.0020	0.1780	555	0.6056	53.7804	700	0.1322	11.7366
415	0.0050	0.4478	560	0.6485	57.5933	705	0.1133	10.0583
420	0.0113	1.0071	565	0.6974	61.9360	710	0.0971	8.6243
425	0.0207	1.8367	570	0.7475	66.3853	715	0.0821	7.2916
430	0.0412	3.6627	575	0.8032	71.3237	720	0.0690	6.1238
435	0.0791	7.0251	580	0.8579	76.1890	725	0.0604	5.3615
440	0.1543	13.7051	585	0.9027	80.1606	730	0.0492	4.3673
445	0.3191	28.3381	590	0.9468	84.0804	735	0.0410	3.6367
450	0.5361	47.6101	595	0.9793	86.9680	740	0.0361	3.2062
455	0.5236	46.4980	600	0.9977	88.6016	745	0.0324	2.8782
460	0.3717	33.0103	605	0.9990	88.7202	750	0.0261	2.3196
465	0.3198	28.4032	610	0.9859	87.5537	755	0.0227	2.0201
470	0.2655	23.5812	615	0.9603	85.2799	760	0.0194	1.7251
475	0.2077	18.4412	620	0.9203	81.7302	765	0.0160	1.4180
480	0.1979	17.5760	625	0.8686	77.1352	770	0.0141	1.2478
485	0.2118	18.8120	630	0.8129	72.1897	775	0.0106	0.9441
490	0.2360	20.9586	635	0.7499	66.5955	780	0.0089	0.7895
495	0.2747	24.3979	640	0.6831	60.6665	785	0.0071	0.6264
500	0.3180	28.2418	645	0.6173	54.8234	790	0.0091	0.8102
505	0.3566	31.6721	650	0.5522	49.0403	795	0.0059	0.5226
510	0.3894	34.5806	655	0.4900	43.5180	800	0.0039	0.3429
515	0.4139	36.7584	660	0.4320	38.3657			
520	0.4361	38.7304	665	0.3792	33.6723			

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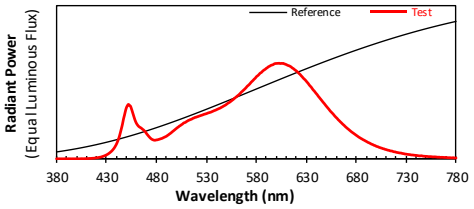
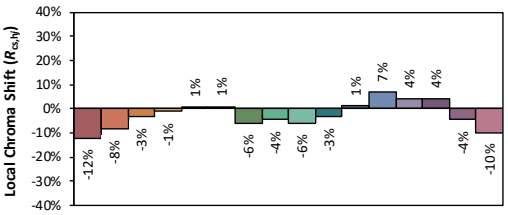
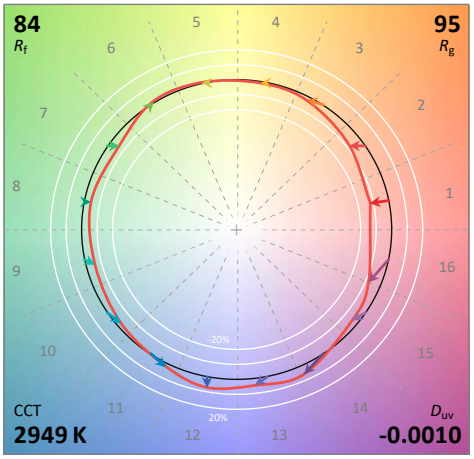
TM30

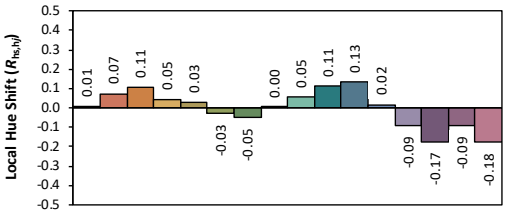
ANSI/IES TM-30-18 Color Rendition Report

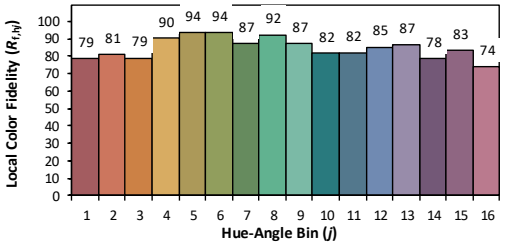
Source:	L128-XX80RA35000H1	Manufacturer:	Beyond LED Technology
Date:	2020/8/26	Model:	BLT-CLW08E-063WBCA1-EXS50K

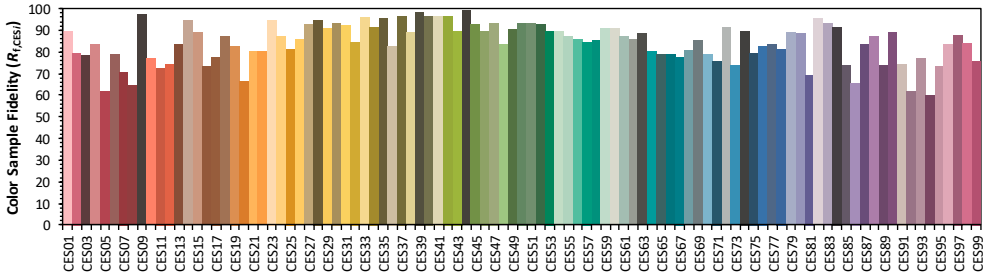












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4391
y	0.4022
u'	0.2528
v'	0.5210

CIE 13.3-1995 (CRI)

R_a	82
R_9	3

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Zonal Lumen Tabulation

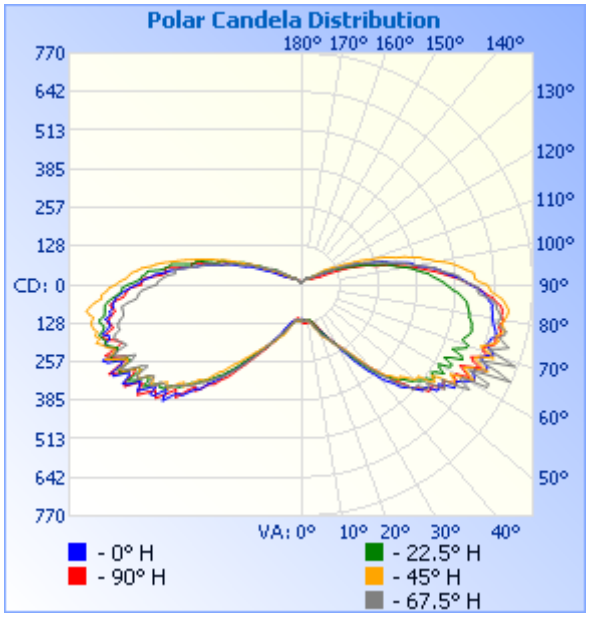
Zonal Lumen Summary

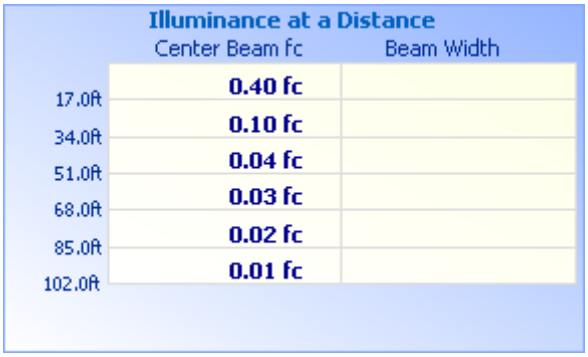
Zone	Lumens	% Lamp	% Luminaire
0-30	144.4	3.4%	3.4%
0-40	333.7	7.9%	7.9%
0-60	1,199.0	28.2%	28.2%
60-90	1,996.8	47%	47%
70-100	1,887.0	44.4%	44.4%
90-120	966.4	22.7%	22.7%
0-90	3,195.8	75.2%	75.2%
90-180	1,053.8	24.8%	24.8%
0-180	4,249.6	100%	100%

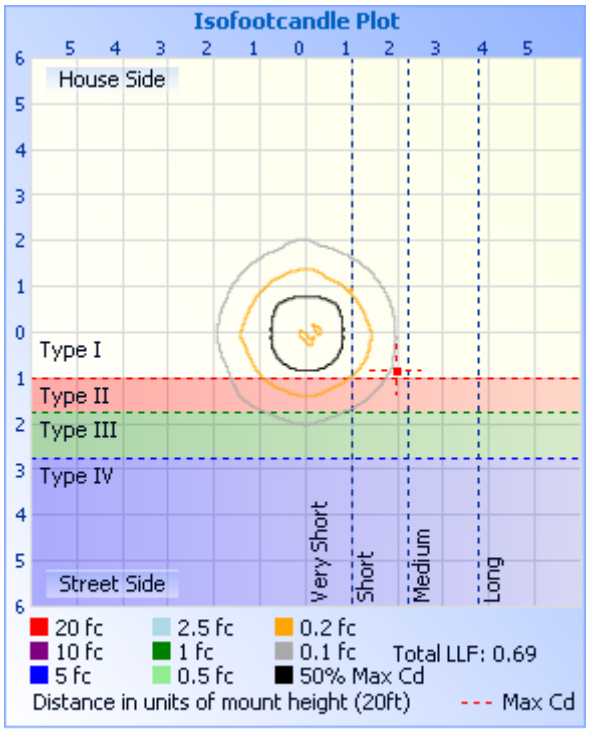
Lumens Per Zone

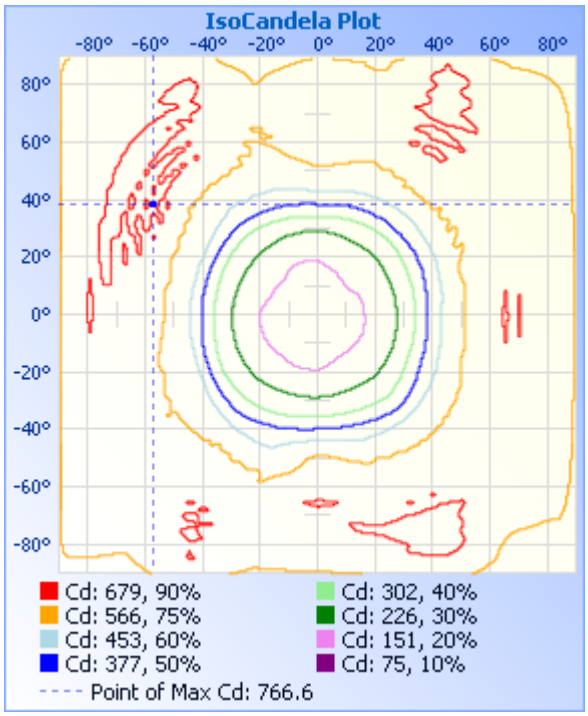
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	11.5	0.3%	90-100	523.0	12.3%
10-20	40.2	0.9%	100-110	312.9	7.4%
20-30	92.6	2.2%	110-120	130.6	3.1%
30-40	189.3	4.5%	120-130	45.3	1.1%
40-50	352.5	8.3%	130-140	22.5	0.5%
50-60	512.8	12.1%	140-150	12.1	0.3%
60-70	632.8	14.9%	150-160	5.2	0.1%
70-80	690.5	16.2%	160-170	1.8	0%
80-90	673.5	15.8%	170-180	0.5	0%

Photometric Data









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Candela Table - Type C

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
1	115	116	118	119	121	122	121	120	118	118	118	117	115	115	114	115	115
2	114	117	119	121	125	128	126	123	120	120	119	118	115	113	113	113	114
3	115	119	121	122	128	131	131	124	119	120	120	117	114	113	111	112	115
4	117	122	122	122	129	133	131	125	118	120	121	118	114	112	112	113	117
5	117	122	122	121	130	134	131	126	118	119	121	117	113	113	112	113	117
6	117	121	121	121	129	132	131	127	119	119	120	118	113	114	115	113	117
7	117	119	120	120	130	129	128	129	120	120	120	119	114	116	117	114	117
8	117	117	120	119	130	127	126	127	122	121	120	119	116	118	121	115	117
9	118	117	120	121	129	125	125	126	123	123	121	122	117	120	124	118	118
10	119	117	122	120	126	124	125	125	122	125	124	123	121	123	128	122	119
11	121	118	123	122	124	123	123	125	122	128	126	126	125	127	132	124	121
12	124	120	126	124	123	123	122	125	124	132	130	130	128	131	138	129	124
13	126	122	129	127	124	123	123	126	126	136	135	133	131	135	144	134	126
14	129	123	131	130	125	123	126	128	129	140	142	138	136	140	153	140	129
15	134	126	136	135	126	125	130	130	132	144	147	141	144	145	159	146	134
16	137	130	145	139	128	128	134	133	135	150	153	146	151	152	167	151	137
17	143	136	150	145	132	132	139	137	141	156	160	154	157	156	171	158	143
18	148	141	154	153	136	137	145	143	146	161	168	159	158	163	171	163	148
19	151	147	160	158	142	143	151	149	151	168	177	166	162	165	174	167	151
20	156	154	167	163	147	150	157	159	157	174	178	172	167	168	174	171	156
21	161	161	176	171	152	157	166	166	165	179	184	176	173	174	178	174	161
22	165	167	185	181	158	166	173	178	175	186	188	183	181	180	183	179	165
23	171	172	190	183	165	173	182	183	183	191	194	188	189	186	187	185	171
24	176	179	192	188	171	181	187	192	190	199	201	193	197	196	193	191	176
25	183	185	197	193	179	188	193	197	198	205	207	202	206	204	202	200	183
26	192	193	203	199	188	194	199	205	205	211	212	209	214	215	208	208	192
27	201	204	208	208	197	201	204	211	213	220	218	218	223	225	218	215	201
28	210	212	216	216	206	207	210	219	222	229	223	228	234	234	227	223	210
29	220	219	225	223	215	215	217	227	233	237	231	237	244	245	233	231	220

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30	232	227	233	231	225	223	226	236	241	247	239	249	254	256	244	240	232
31	245	237	240	241	234	231	235	245	251	252	246	261	268	265	254	251	245
32	261	249	246	249	244	240	241	253	262	262	257	274	279	277	259	260	261
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34	293	276	264	271	267	259	251	271	287	283	273	303	308	302	288	287	293
35	311	294	273	281	281	269	260	280	304	298	285	318	325	316	295	302	311
36	327	309	288	296	297	280	272	294	322	315	297	332	340	333	309	319	327
37	347	327	304	316	313	293	287	309	342	329	307	351	361	349	336	336	347
38	365	344	319	332	329	308	305	327	355	348	322	363	385	361	349	351	365
39	380	361	343	351	346	323	320	344	372	366	336	379	400	380	368	367	380
40	400	378	363	368	364	340	335	360	389	380	347	399	413	394	394	389	400
41	421	394	379	389	380	361	351	381	414	399	366	405	438	398	399	398	421
42	435	404	397	410	400	381	363	392	435	408	388	420	445	412	408	414	435
43	446	419	415	425	416	411	378	408	452	425	398	435	454	428	429	433	446
44	470	431	419	454	444	435	394	419	483	438	419	449	485	441	447	442	470
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46	490	457	452	481	475	472	436	434	511	468	458	469	488	479	456	471	490
47	502	461	448	512	506	480	446	435	540	480	464	488	517	485	489	476	502
48	520	476	459	511	513	479	470	446	543	488	495	504	560	514	511	496	520
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50	534	495	491	542	551	497	488	471	601	530	506	523	543	521	513	498	534
51	544	507	496	545	555	502	525	487	586	537	520	534	580	536	553	512	544
52	572	519	495	530	549	528	507	504	562	546	563	552	613	577	580	543	572
53	575	519	537	556	561	510	517	500	614	574	559	562	605	567	571	546	575
54	565	536	550	590	586	514	579	514	619	580	551	562	598	542	571	527	565
55	583	539	529	582	578	552	571	549	586	571	573	569	623	576	608	548	583
56	615	522	550	564	572	542	557	533	616	596	602	603	656	609	631	596	615
57	612	534	613	621	600	530	608	535	649	623	588	602	644	584	618	587	612
58	609	559	599	659	611	580	633	588	634	598	579	576	621	558	610	561	609
59	624	535	578	617	589	586	588	576	623	593	590	587	629	586	630	579	624
60	641	529	614	619	595	552	589	552	663	639	627	630	677	621	676	627	641
61	658	565	657	705	638	595	652	609	678	658	620	623	668	611	684	636	658

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62	651	567	627	705	616	630	623	619	648	603	604	578	631	568	652	590	651
63	641	533	607	626	592	575	584	551	642	606	608	595	618	574	639	599	641
64	641	553	632	676	624	590	624	591	693	670	657	644	664	606	673	626	641
65	679	591	684	**767**	657	663	680	656	694	670	665	660	704	635	726	655	679
66	677	583	649	716	625	638	632	612	653	620	631	616	664	611	698	625	677
67	657	546	625	646	614	583	609	561	645	625	629	598	626	585	658	593	657
68	643	566	639	697	646	643	667	637	692	672	665	634	632	598	655	606	643
69	662	588	685	760	665	671	692	660	706	676	696	666	676	624	694	618	662
70	680	591	665	704	643	619	635	601	650	651	661	651	692	655	734	641	680
71	666	567	631	660	640	605	629	590	652	644	654	614	650	629	700	609	666
72	647	571	648	692	660	652	687	646	674	666	678	623	628	611	665	601	647
73	653	579	672	720	675	645	696	647	684	679	688	639	636	611	672	598	653
74	655	585	683	700	671	621	661	620	662	676	707	647	665	634	690	607	655
75	670	587	669	682	676	623	671	623	661	686	693	641	684	660	728	627	670
76	667	583	679	694	685	645	704	645	681	690	705	621	663	650	728	619	667
77	662	582	693	699	679	616	685	625	660	675	696	624	642	622	695	606	662
78	654	577	687	678	671	607	672	610	649	669	706	622	644	624	695	600	654
79	650	569	679	664	677	616	685	620	650	679	710	612	656	634	705	599	650
80	645	568	684	671	684	626	696	628	661	682	707	600	647	631	716	596	645
81	644	565	689	671	673	601	687	616	640	662	699	598	636	624	715	586	644
82	642	560	694	664	674	601	687	608	643	659	712	599	624	608	698	581	642
83	638	556	695	655	673	594	674	599	628	658	718	600	633	612	697	578	638
84	639	553	686	652	666	595	680	604	630	656	705	581	637	616	713	581	639
85	627	543	678	643	649	588	681	603	623	644	689	551	620	609	718	574	627
86	619	532	668	622	639	587	687	592	617	627	664	544	593	595	703	557	619
87	610	523	648	592	617	566	653	567	602	608	665	540	583	579	683	551	610
88	600	504	630	587	602	555	640	566	586	597	648	528	580	579	684	554	600
89	583	493	625	588	585	542	628	555	566	594	638	505	565	556	669	539	583
90	561	482	618	569	565	529	620	532	547	576	616	481	532	519	634	506	561
91	548	472	590	546	546	515	596	513	532	551	603	477	528	519	627	495	548
92	534	459	577	524	529	496	582	521	521	535	583	467	528	521	627	497	534
93	514	445	576	526	504	502	553	506	496	530	574	457	500	507	613	490	514

94	492	432	573	508	481	466	540	467	488	516	566	444	466	466	572	463	492
95	475	424	553	479	462	451	528	453	456	513	545	421	449	446	546	437	475
96	464	404	538	460	438	427	499	452	441	469	531	421	456	459	564	439	464
97	446	389	521	451	416	419	458	432	416	454	502	424	452	460	565	433	446
98	421	376	504	428	397	386	456	385	396	442	486	393	410	440	539	412	421
99	395	362	482	402	379	368	447	378	374	437	466	370	373	412	491	387	395
100	380	339	453	377	348	338	405	361	350	386	439	351	369	398	485	374	380
101	374	321	437	361	327	328	367	340	339	363	417	331	369	401	494	375	374
102	354	307	415	345	314	307	372	312	320	359	394	330	352	380	481	353	354
103	324	297	405	327	292	291	356	308	297	353	370	304	309	354	429	326	324
104	303	280	373	302	261	261	318	276	265	303	348	282	291	328	397	305	303
105	293	251	358	286	246	246	284	253	263	282	327	253	288	320	400	300	293
106	280	240	325	270	239	237	284	246	247	283	305	247	279	313	398	288	280
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111	187	168	233	191	125	154	187	162	141	203	190	192	190	241	286	213	187
112	165	151	215	172	100	134	145	150	122	170	181	156	168	203	247	195	165
113	150	135	192	155	66	124	131	130	116	160	155	144	151	205	237	181	150
114	140	128	170	144	67	108	123	123	92	149	135	146	132	192	226	178	140
115	123	122	160	128	60	93	94	106	75	137	122	133	110	185	207	163	123
116	101	106	147	107	53	79	73	87	66	117	110	110	85	149	177	145	101
117	91	94	121	103	50	76	81	96	61	109	97	108	69	157	165	130	91
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123	52	58	67	48	33	42	41	42	42	68	54	68	46	84	89	81	52
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170	5	5	4	6	5	5	5	5	4	5	5	5	6	6	5	5	5
171	4	4	4	6	5	5	5	5	4	5	5	5	6	6	5	5	4
172	5	4	4	6	4	5	5	5	4	5	5	5	6	5	5	4	5
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179	5	5	5	6	5	4	4	5	5	5	5	4	4	4	4	5	5
180	5	5	5	6	4	4	4	4	5	5	5	5	4	4	4	5	5

BUG Rating

Lum. Classification System (LCS)

LCS Zone		Lumens	%Lamp	%Lum
FL	(0-30)	72.1	1.7	1.7
FM	(30-60)	530.4	12.5	12.5
FH	(60-80)	660.6	15.5	15.5
FVH	(80-90)	336.2	7.9	7.9
BL	(0-30)	72.3	1.7	1.7
BM	(30-60)	524.3	12.3	12.3
BH	(60-80)	662.4	15.6	15.6
BVH	(80-90)	337.2	7.9	7.9
UL	(90-100)	522.9	12.3	12.3
UH	(100-180)	530.7	12.5	12.5
Total		4249.1	99.9	100.0

BUG Rating **B2-U4-G3**

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2020-08-26	Test Ambient:	25.2 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-CLW08E-063WBCA1-EXS50K		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200803 2E-F2	120.0	60	0.2913	34.36	0.983	11.75
	277.0	60	0.1347	33.65	0.902	12.03
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	6364
Duv	0.0076
Chromaticity (x, y)	x=0.3141 y=0.3390
Chromaticity (u', v')	u(u')=0.1951 v'=0.4738
Color Rendering Index (CRI)	81
R9	-8
Rf	81
Rg	90
Rcs,h1(%)	-15

Special Color Rendering Indices			
R1	78	R9	-8
R2	89	R10	74
R3	94	R11	76
R4	77	R12	53
R5	79	R13	82
R6	84	R14	97
R7	85	R15	72
R8	63	--	--
--	--	--	--
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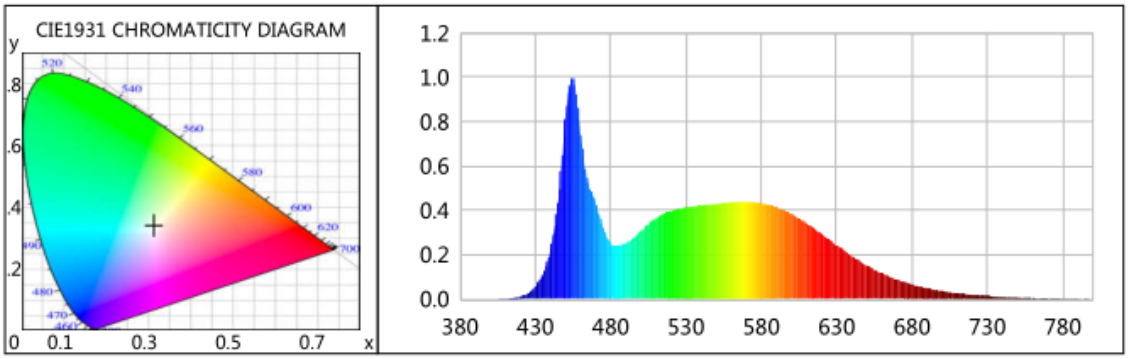
--	--	--	--

Photometric Measurement –Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	4768.1	4614.5	250-5000lm (-10%)
Luminous Efficacy (lm/W)	138.77	137.11	Standard : >=105(-3%)
Most worst Luminous/Highest Watts	134.30		

Spectral Power Distribution & Chromaticity Diagram

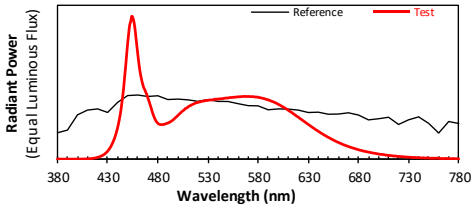


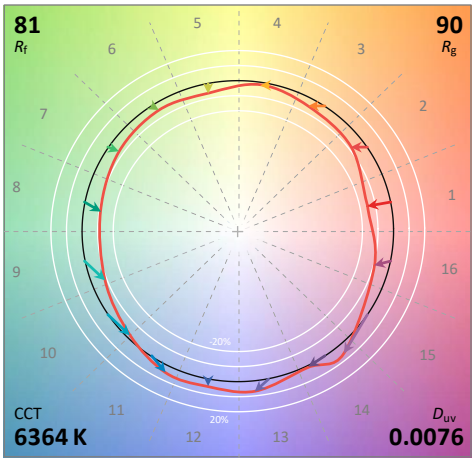
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.0628	525	0.4069	68.3848	670	0.0887	14.9067
385	0.0004	0.0716	530	0.4118	69.2026	675	0.0770	12.9424
390	0.0007	0.1171	535	0.4154	69.8128	680	0.0660	11.0960
395	0.0005	0.0829	540	0.4210	70.7552	685	0.0561	9.4353
400	0.0006	0.1013	545	0.4243	71.3074	690	0.0490	8.2393
405	0.0012	0.1971	550	0.4282	71.9681	695	0.0422	7.0913
410	0.0021	0.3455	555	0.4329	72.7551	700	0.0358	6.0187
415	0.0051	0.8631	560	0.4363	73.3302	705	0.0311	5.2337
420	0.0124	2.0771	565	0.4386	73.7141	710	0.0263	4.4209
425	0.0266	4.4676	570	0.4392	73.8149	715	0.0215	3.6118
430	0.0559	9.3900	575	0.4379	73.5975	720	0.0189	3.1746
435	0.1142	19.1862	580	0.4345	73.0243	725	0.0164	2.7578
440	0.2216	37.2412	585	0.4249	71.4103	730	0.0139	2.3318
445	0.4378	73.5851	590	0.4162	69.9428	735	0.0112	1.8875
450	0.8130	136.6345	595	0.4020	67.5570	740	0.0103	1.7308
455	0.9927	166.8320	600	0.3844	64.6001	745	0.0091	1.5345
460	0.7403	124.4217	605	0.3650	61.3510	750	0.0079	1.3222
465	0.5253	88.2876	610	0.3426	57.5847	755	0.0063	1.0568
470	0.4309	72.4262	615	0.3185	53.5296	760	0.0058	0.9713
475	0.3204	53.8538	620	0.2946	49.5177	765	0.0039	0.6589
480	0.2525	42.4432	625	0.2689	45.1843	770	0.0051	0.8491
485	0.2426	40.7792	630	0.2432	40.8774	775	0.0043	0.7175
490	0.2528	42.4873	635	0.2187	36.7480	780	0.0019	0.3239
495	0.2736	45.9809	640	0.1949	32.7589	785	0.0019	0.3256
500	0.3059	51.4034	645	0.1730	29.0738	790	0.0037	0.6211
505	0.3380	56.8001	650	0.1531	25.7279	795	0.0024	0.4042
510	0.3651	61.3595	655	0.1341	22.5365	800	0.0019	0.3229
515	0.3841	64.5465	660	0.1173	19.7173			
520	0.3970	66.7159	665	0.1015	17.0655			

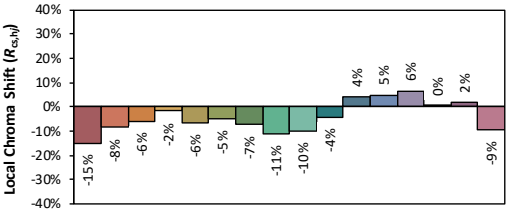
TM30

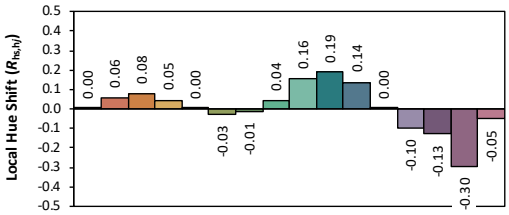
ANSI/IES TM-30-18 Color Rendition Report

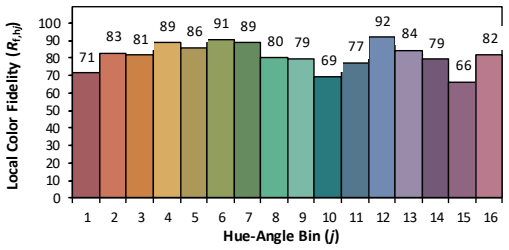
Source:	L128-XX80RA35000H1	**Manufacturer:**	Beyond LED Technology
Date:	2020/8/26	**Model:**	BLT-CLW08E-063WBCA1-EXS50K

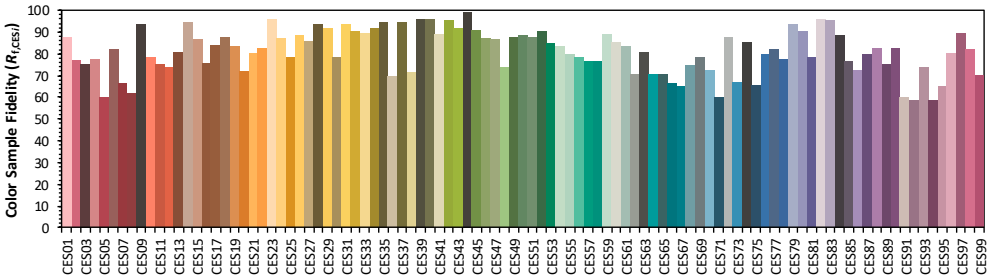












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3141
y	0.3390
u'	0.1951
v'	0.4738

CIE 13.3-1995 (CRI)

R_a	81
R_9	-8

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Calculated Efficacy Data for family models (3500K to 5700K):

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
BLT-CLW08E-063WBCA1-EXS50K	4249.1	34.09	124.64
BLT-CLW08E-063WBCA1-EXS51K	4323.2	34.23	126.32
BLT-CLW08E-063WBCA1-EXS52K	4397.4	34.23	128.48
BLT-CLW08E-063WBCA1-EXS53K	4460.9	34.23	130.34
BLT-CLW08E-063WBCA1-EXS54K	4524.5	34.23	132.20
BLT-CLW08E-063WBCA1-EXS55K	4588.0	34.23	134.06
BLT-CLW08E-063WBCA1-EXS56K	4768.1	34.36	138.77

*1: This value is calculated and the calculation formula is as below:

4323.2 = (4768.1 -4249.1) / 7 + 4249.1

4397.4 = (4768.1 -4249.1) / 7 + 4323.2

4460.9 = (4768.1 -4249.1) / 7 + 4397.4

4524.5 = (4768.1 -4249.1) / 7 + 4460.9

4588.0 = (4768.1 -4249.1) / 7 + 4524.5

*2: This value is calculated and the calculation formula is as below:

34.23 = (34.36 + 34.09) / 2

*3: This value is calculated and the calculation formula is as below:

126.32 = 4323.2 / 34.23

128.48 = 4397.4 / 34.23

130.34 = 4460.9 / 34.23

132.20 = 4524.5 / 34.23

134.06 = 4588.0 / 34.23

3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometeric System	GPM-3000	DYHXF120001	2021/2/26
AC Power Source	CHP-500C	N/A	2021/3/29
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2021/3/1
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Integral Sphere (2M)	2M	DYJCE120067	2021/2/26
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2021/2/26
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

******** END OF REPORT ********